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ABSTRACT

This paper suggests that library and information systems provide access to claims to knowledge rather than to knowledge or information and that such claims to knowledge are in fact claims to truth. The stated purpose of the paper is to explain why the library and information community should adhere to at least soft, if not hard, skepticism with regard to those claims to knowledge. The validity of claims to knowledge are assessed and claims to both everyday and academic knowledge are considered. The paper examines in turn each of four bases for claims to knowledge: (1) induction; (2) hypothecation; (3) definition (including knowledge claims rooted in logic and mathematics); and (4) access to inner states (either by direct report or by inference). The paper concludes that claims to truth cannot be affirmed and that most of what librarians and information workers call information, is in fact, opinion. (THC)

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ISSUES OF ACCESS IN THE NEW INFORMATION AGE

by

Dan Bergen

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Paper Prepared for Delivery at the Conference on Everyman's Access to Information in the New Information Age, School of Library and Information Studies, University of Wisconsin-Madison, 19-20 October 1984 (Slightly Revised and Expanded Version of the Paper Actually Delivered)

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Issues of Access in the New Information Age

When Bill Williamson asked me to open this conference with a paper on "Issues of Access to Information in the New Information Age," I knew immediately that I was in trouble. The key words, "access" and "information," jumped right out at me. Our trade has been trying, for a very long time, to get a handle on what access might mean and on what information might be. To inquire, once again, as to "access" and "information" strikes me as something like searching for the jugular of a bowl full of jello. "Access" and "information" are the labels on two of our largest professional trash cans, into which we toss some of our best and worst work, treasures and garbage alike. I use the metaphor of the trash can because I am not entirely sure that our best work on "access" and "information" has gotten us any further along the line toward pinning these concepts down than our worst work. Best and worst, in this context, seem to suggest more and less interesting rather than more and less progress toward defining "access" and "information." I can add little to the conversation concerning "access" and "information" here. What I can do is assume, and I hope this is not living dangerously, that people do in fact gain access to something. That something I will call not information, not knowledge, but claims to knowledge. It will then be my project to asess the validity of those claims to knowledge to which I have assumed people have access. Because access is sought to everyday, as well as academic, knowledge, I will evaluate the claims of each.

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If a task of the library and information community is to foster access to knowledge claims, it is important to decide what a claim to knowledge is. Here the emphasis is properly placed on the word "claim." Dissociated from that term, knowledge might well refer to that which a person thinks he/she knows or to that on which an individual bases action. In such a case, knowledge may be true, false, or a mixture of truth and falsehood, insofar as there is a conventional wisdom about what constitutes truth and falsehood. I follow the Patrick Wilson of Second-Hand Knowledge in insisting that a claim to knowledge is a claim to truth.[1] A claim to knowledge as claim to truth will typically involve a reference to reason, to the evidence of the senses, to some combination of the rational and the empirical, to a definition, or to a report by an individual on an inner state of that person. With respect to claims to knowledge, I again follow Wilson, who suggests that the "official ideology of librarianship" should be a soft form of skepticism which neither accepts nor rejects the "possibility of knowledge," but proceeds to inquire without confidence that any knowledge has yet been unearthed.[2] In his book, which is a sustained attack on what he calls cognitive authority, Wilson does not tell his librarian readers why they should be skeptics. The only clue to Wilson's own skepticism to be found in Second-Hand Knowledge comes at the end of the "Bibliographical Essay," at which point he expresses his great pleasure with what he calls the social epistemology, what I would call the anti-epistemology or anti-theory of knowledge, of Richard Rorty as developed in his book of 1979, Philosophy and the Mirror of Nature.[3] It will be my purpose here to explain why the library and information community, as well as other interested persons, should adhere

to at least soft, if not hard (denying the very possibility of knowledge), skepticism with regard to claims to knowledge. Once we, as librarians and information workers, are convinced of the tenuousness of claims to knowledge, which are also claims to truth, we may prove less willing to devise schemes of access thereto, even though such claims to knowledge or truth are all we have in this world when it comes to the enhancement of access.

Historically, claims to knowledge have been entered on the basis of (1) induction; (2) hypothecation; (3) definition (within which I include knowledge claims rooted in logic and mathematics); and (4) access to inner states (either by direct report or by inference). I will treat each of these bases for claims to knowledge in turn and will attempt to show why librarianship's approach to such claims should be gingerly and full of doubt. If our present claims to knowledge or truth can be shown to be defective, then we must ask ourselves, as librarians and information workers, whether we should continue to devote thought and time and money to devising systems of access to such claims, bearing in mind, of course, that such claims to knowledge are all we have.

We begin with induction. Dictionaries often define induction as that process by which reason moves from the particular to the general. Such a definition is incomplete, and thereby deceiving, because it ignores the dimension of time. Induction is really the assertion that the future will resemble the past and its foundations are psychological, not logical. If I have observed many three-person groups, ranging from the play triads of young children to the love triangles of adults, and have never encountered anything but instability in such groups, my psyche may rather easily coerce me into the belief that all three-person groups are unstable. The

problem is that there is no logical guarantee that the next three-person group I observe will be unstable. It might in fact be stable. Induction, therefore, is a highly psychological, highly illogical, reading of the past onto the future. It took an 18th century Scot, David Hume, to defeat induction. Perhaps only a Scot could have done it, such was the head of steam that induction, thought to be a method of reason, had as it emerged from the Baconian, Cartesian, and Lockean 17th century. While we fill our everyday lives with induction (e.g., we just know that water will flow when we turn the handle of the faucet because it has never failed to flow before), the logical invalidity of induction as a base for any claim to knowledge has been well known, if not always accepted, for over two centuries. Philosophers have devoted whole lives to the vindication of induction in both its universal (e.g. all three-person groups are unstable) and probabilistic (e.g., seventy percent of all three-person groups are unstable) forms. In its universal or determinate form, induction appears incapable of vindication. In its probabilistic or statistical form, induction may have experienced some marginal vindication, but over spans of space and time that are so constrained as to make the outcome of the inductive process uninteresting from a claim to knowledge standpoint. It is now generally conceded among philosophers that induction is an unsatisfactory base for a claim to knowledge or truth.

Hypothecation, as base for claim to knowledge, is a more complex and problematic matter than induction. If we construct a hypothesis, such as, "if there is a three person group, then there will be instability in that group," we recognize immediately that we shall never be able to demonstrate the incorrigible truth of that hypothesis. As Hume suggested, no matter how many unstable three-

person groups one observes, there is always the logical possibility that the next three-person group one observes will be stable. The confirmation of a hypothesis, so formulated as to be amenable to empirical check, that is to say, to check by the evidence of the world provided to us by our senses (even the evidence of machines is mediated by the senses), is clearly not possible. A more important question is whether a hypothesis, even one so constructed as to make immediately evident its non-correspondence with the empirical world, with the phenomenal world open to the senses, can be falsified. It is by now a commonplace that Sir Karl Popper thought that such hypotheses could indeed be falsified. Sir Karl held that our problems with falsification stemmed from our admission into the arena of science hypotheses of a metaphysical or poetic sort, such as those of Marx, Freud, and Adler (the psychologist, not the philosopher), which were so slippery, so conceptually and linguistically ambiguous, as to be impervious to refutation regardless of the quantity and quality of evidence resorted to. With his famous line of demarcation, Sir Karl read out of science those hypotheses without clear empirical correlates.

Popperian theory of knowledge, with its Darwinian evolutionary suggestion that some hypotheses are falsified and fall by the wayside while others resist falsification and are thus strengthened, if never confirmed, has been favorably received in librarianship, first by the late Jesse Shera, in his 1972 volume, The Foundations of Education for Librarianship[4], and then by Professor Don R. Swanson of the Graduate Library School at The University of Chicago in a paper titled, "Libraries and the Growth of Knowledge," prepared for the 1979 Graduate Library School Conference on The Role of

Libraries in the Growth of Knowledge.[5] Following Popper, Swanson argued that because knowledge grows by trial and error, we should devise problem-oriented systems of access to information within which we might seek to falsify our statements of problems and, failing that, assign to them a kind of Darwinian fitness. In the trial by falsification, the fittest hypotheses would survive, albeit in unconfirmed form, while those suffering the ignominy of falsification would disappear, compelling us to replace them with hypotheses which we might at least hope would be more fit. In one of his last public appearances, at Eastern Illinois University in April of 1981, where he delivered a lecture titled, "The Pathfinder's Burden," Dean Shera said of Swanson's GLS Conference piece: "I would admonish you to look at this. It's extremely provocative, stimulating material."[6]

My enthusiasm for falsificationism is more restrained than that of either Shera or Swanson. Pierre Duhem, a turn-of-the-century French philosopher; Imre Lakatos of the University of Cambridge, who died in the early 1970s; and Paul Feyerabend, an extraordinary philosopher at the University of California at Berkeley, have subjected falsificationism to a severe critique. While it may be impossible to rule out, at least in principle, that an empirically-checkable hypothesis could be falsified, my suspicion is that such would be so formidable a project in practice as to render the attempt at falsification untenable, at least as a regular exercise.

Duhem and Lakatos use Aristotle and Galileo as their case in point. The former hypothesized that the surfaces of heavenly bodies are invariably smooth. The latter looked through his telescope and saw that the surface of the moon was rough. Does Galileo's observation falsify Aristotle's hypothesis? Not necessarily. By peering

into his telescope, Galileo mobilizes a whole series of hypotheses concerning the optics of his instrument and the optics of his eye, any one of which could, on close investigation, prove defective. In short, say Duhem and Lakatos, a primary hypothesis, in this case Aristotle's, is inevitably embedded in a network of secondary hypotheses which can inoculate that primary hypothesis against any kind of straight forward falsification. The secondary hypotheses form an insulating, protective belt around that primary hypothesis which one seeks to falsify making it difficult, if not impossible, to determine when one has actually been successful in one's effort at falsification. This is so because the secondary hypotheses are themselves situated in systems of tertiary hypotheses, the tertiary hypotheses, in turn, in systems of quadrinary hypotheses, and so on. The regress, if not infinite, would seem to be finite and indefinite.

Having declared that "it was not Galileo's - pure, untheoretical - observations that confronted Aristotelian theory but rather Galileo's 'observations' in the light of his optical theory that confronted the Aristotelians' 'observations' in the light of their theory of the heavens," Lakatos moves on to Newtonian physics as an additional example of the embedment of hypotheses and of the notion that theory is inevitably in a position to contaminate observation. Here is what he has to say:

> Science is not simply trial and error, a series of conjectures and refutations. 'All swans are white' may be falsified by the discovery of one black swan. But such trivial trial and error does not rank as science. Newtonian science, for instance, is not simply a set of four conjectures - the three laws of mechanics and the law of gravitation. These four

> laws constitute only the 'hard core' of the Newtonian program. But this hard core is tenaciously protected from refutation by a vast 'protective belt' of auxiliary hypotheses. And, even more importantly, the research program also has a 'heuristic,' that is, a powerful problem-solving machinery, which, with the help of sophisticated mathematical techniques, digests anomalies and even turns them into positive evidence. For instance, if a planet does not move exactly as it should, the Newtonian scientist checks his conjectures concerning atmospheric refraction, concerning propagation of light in magnetic storms, and hundreds of other conjectures which are all part of the program. He may even invent a hitherto unknown planet and calculate its position, mass and velocity in order to explain the anomaly.[7]

As this lengthy quotation suggests, the hypotheses of a respected science like physics may be as difficult to refute as those of a pseudoscience like astrology or, for Lakatos, the hypotheses of Marxism and Freudianism. Whether the near irrefutability of hypotheses makes any difference to working science is problematic. Clearly, however, Lakatos' critique deals science's claim to epistemological superiority over other ways of knowing a harsh blow.

With respect to Popper's idea that a sciemtific proposition is one which is capable of falsification, Hilary Putnam of Harvard, who, like the Popper of Objective Knowledge, has made the odyssey from realism to anti-realism, makes some very interesting observations in his 1981 book, Reason, Truth, and History, the book in wnich, in fact, his anti-realism finally comes out of the closet. He points out that the theory of evolution by natural selection is tough to falsify. And, in scientific circles, its major challenge has come less from creationism than from the hypothesis of punctuated equilibrium set forth by Stephen Jay Gould and Niles Eldridge. (My inclination is

to say a pox on both their houses, the apocalyptic metaphor derived from Marxism worked into punctuated equilibrium occupying no privileged status vis-a-vis the metaphor of Victorian gradualism which governs Darwinian evolution.) Well, Putnam, like the late Imre Lakatos of the University of Cambridge, contends that natural selection is admired not because it is stated in falsifiable form or has survived some kind of Popperian test, but because it seems to explain a lot of things, is suggestive of new theories, and provides some link between the biology of the nineteenth century, with its emphasis on organisms and organs, and the biology of the twentieth, with its emphasis on genes and cells and molecules. Natural selection sponsors what Lakatos might call a generating, or fecund, research program as contrasted with a degenerating one. For Putnam, scientists hold onto a theory (assuming no viable alternatives are in sight) not because it is falsifiable in any clear-cut way, but because it seems to offer plausible explanations.[8]

Recall that our exemplary hypothesis was "if there is a three-person group, then there will be instability in that group." Let us suppose that we suddenly discovered what we took to be a stable three-person group. Where does that put us? The answer is: It's hard to tell. Terms like "three" and "person" and "group" and "instability" derive their definitions and empirical referents from systems of meaning and reference. They are clearly embedded. For example, the notion of person is located on a continuum ranging from a part of a person to more than a person. Not only must one grapple with what a person might be, one must be prepared to say

where a person begins and where a person ends. As concepts, "a part of" and "more than," are lodged in systems of meaning which lie still further below the surface. Because any one of these embodying systems of meaning may have shortcomings, logical inconsistency being a most likely error, it is once again difficult, if not impossible, to determine when a hypothesis, like our paradigmatic one, has been falsified. Although I am not prepared to abandon the idea of falsification in principle, I am very close to jettisoning in practice because I do not see how we can know when we have accomplished falsification given the Duhem-Lakatos proposition concerning the subsurface embodiment of hypotheses. We could be the best philosophical archaeologists imaginable and still not be able to reach any final level of embodiment.

Feyerabend's objection to falsificationism is very different from that of Duhem and Lakatos. I would call it more Humean, in the sense that it is sensitive to psychology. In brief, Feyerabend asserts that the fabrication of a hypothesis is hard work. It often takes a lot of imagination and intuition, if we define that last term in the old way as reason in a hurry. People who develop hypotheses develop a visceral commitment to them. They want to see their hypotheses succeed. Therefore, their psyches incline them toward evidence which is supportive of their hypotheses and away from evidence which might be defeating. For Feyerabend, hypotheses have a self-fulfilling quality. Their owners will be oriented to finding what they are looking for, namely, evidence in support of those hypotheses. Conversely, evidence which might defeat a hypothesis will

be overlooked or ignored. If a hypothesis is refuted, its formulator must go on to create a new one. That is more hard work and I need not remind this audience that few scholarly or scientific reputations have been built on a string of rejected hypotheses. At bottom, Feyerabend is insisting on the quixotic character of the falsificationist's enterprise. Even if we could get around the indefinite regress objections of Duhem and Lakatos, Feyerabend would argue that we do not falsify because we do not want to. To the philosophical caveats introduced by Duhem and Lakatos, he adds psychological reservations.

The third base upon which claims to knowledge or truth have been founded is definition, and I include here knowledge claims rooted in logic and mathematics. Here I will touch upon everyday, as well as academic, claims to knowledge. Consider this prosaic situation. A librarian is asked what time and date it is. She responds that it is 4:00 p.m. on 19 October. Her interrogator looks blank. It might be 1600 hours, but it could not possibly be something called 4:00 p.m. Moreover, it could not possibly be 19 October since it will be some days, perhaps weeks, before we reach that date. As observers, we can only be thankful that this devotee of international time and the Julian Calendar did not ask the librarian what year it was. The point here is a simple and preliminary one: There are no objective facts, no truths, only assertions containing their own interpretive horizons, horizons which, on examination, are often seen as the products of power and arbitration rather than of the application of reason. No one was more aware of this than Nietzsche, the master genealogist, who showed that our ideas of good and evil, indeed our

very concepts of reason and truth, originate with those who rule and are imposed upon the ruled. Nietzsche did not need Marx's relations of production to demonstrate that what we take to be fact, to be truth, is often an artifact of time and culture subsisting in a system of power in which some are masters and some are slaves. Such is why I freeze when someone says, "Why, that's a fact." Facts are ethnocentric. The title, "fact," is conferred by default, by people who are unaware of alternative frames of reference or whose imaginations are not fecund enough to come up with any on their own. Facts, far from being manifestations of truth, are very often a product of power at their genesis, power which then proceeds to elicit their social acceptance. My point is that a fact is an outgrowth of definition. It just might be worthwhile for librarians and information workers to inquire of history as to who may have done the initial defining.

2 The tide in epistemology and philosophy of mind is moving very strongly in the direction of what Donald Davidson calls conceptual relativism. Conceptual relativism means that what we take to be "true" of the world, what we take to exist in the world, is a function of the conceptual schemes of which we are captive. While our nineteenth-century notion of water may be the same as our twentieth century notion (it is H_2O in either case), shifts in conceptual schemes have made our nineteenth and twentieth century conceptions of electron and acid very different, what philosophers call very incommensurate. To talk about water in the 19th and 20th centuries may be to talk about the same thing. To talk about electrons, or acids, in the 19th and 20th centuries may be to talk about very different things on account of what Kuhn called

paradigm shift, the location of the concepts, electron and acid, in entirely new theoretical networks, networks of hypotheses and presuppositions. (For more on this subject, see Ian Hacking, Representing and Intervening (Cambridge: Cambridge University Press, 1983), pp. 82-85.) Some realists, like the Putnam of the 1970s and the Stephen Toulmin of the early 1980s, have tried to save realism from conceptual relativism by insisting that there are some natural things, stones for example and water, which are stable through conceptual shift and which exercise a coercive force on our minds, determine almost by brute force what our minds must believe as sharply contrasted with social phenomena, say, a love affair, which underdetermine what our minds must believe. Now, if one asserts that our knowledge is relative, to culture, let us say, that assertion or position is itself relative. The irony is, however, that there is an absolutism which has wormed its way into relativism. Take conceptual relativism, for example. The conceptual relativist holds that there is an internal correspondence between the objects of a conceptual scheme and the conceptual scheme itself. With respect to paleontological development, for instance, Darwin saw evolution while Gould and Eldridge see revolution. Conceptual schemes are self-fulfilling with respect to what is taken to exist - evolutionary change exists for Darwinian natural selection, but not for the punctuated equilibrium of Gould and Eldridge. Revolutionary biological change exists for punctuated equilibrium, but not for the theory of evolution. Of necessity, almost, the objects which a conceptual scheme takes to exist are internally congruent with that conceptual scheme. The distinction is an interesting one: With respect to the external culture, truth is

a relative matter say the relativists. But with respect to the internal correspondence between a conceptual scheme and its objects, there is absolute congruity. The question is: Can there be an external relativism (vis a vis the environing culture) and an internal absolutism (the congruity between a conceptual scheme and the world it takes to exist) or would the thoroughgoing relativist have to say there must be both external and internal relativism? I do not know the answer to that question.

For some time, philosophers accepted the idea that propositions could be true by definition (i.e., necessarily true) or true because they corresponded to the evidence (i.e., contingently true). For instance, a statement like, "a bachelor is an unmarried man," would appear to be true by definition, whereas a statement like, "Geraldine Ferraro is a handsome woman," (no politicking intended) would appear to be one whose truth, given general agreement as to what constitutes female handsomeness, is subject to observation. In the 1950s, a philosopher named Willard Van Orman Quine produced an essay, "Two Dogmas of Empiricism," in which he denied that such a distinction could be drawn between necessarily and contingently true propositions and that, furthermore, our inability to differentiate necessarily and contingently true statements in this way made it impossible for us to designate the grounds on which we might hold that a proposition is necessarily truthful. Quine suggests that we ask someone in an alien culture whether he/she agrees with the statement, "no bachelor is married." Assuming assent, Quine then asks us how we would ever know, on the basis only of that "yes" answer, whether the member of the alien culture is assenting to the proposition on the basis of definition or of fact. That alien culture may define bachelors as unmarried, in which case the

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"yes" is based on definition. On the other hand, that culture may define a bachelor as a librarian, and it so happens that the individual to whom we are addressing our inquiry has never encountered a married librarian. In this instance, the foreigner's assent is based on observation. The upshot of Quine's critique is that in a cross-cultural situation, which is the situation in which most of us find ourselves most of the time, whether we realize it or not, there can be no necessary truths by definition. There can be no necessary truth by definition because we can never know whether a respondent's assent is founded upon linguistic convention (i.e., definition) or empirical evidence.

As to what we sometimes take to be the truths of logic and mathematics, truths which Descartes thought we discerned by observing our own mental processes, there are also some kickers. In these areas, it was once thought that if our definitions were unambiguous and consistent and our reasoning clear and systematic, truth would be ours. No longer. In a stimulating book, which places an astonishing amount of learning on display, Professor Morris Kline of New York University challenges the related notions of logic and mathematics as truth. That book, Mathematics: The Loss of Certainty, insists that mathematics is a product of neither logic, intuition, nor empiricism, but a construction of the biologically- and culturally-conditioned mind.[9] On this view, one can readily understand and accept Kurt Gödel's 1930s assertion that any proof of the logical consistency of mathematics must employ principles of logic which are dubious, at best. If our numbers and mathematical formulae seem remarkably consistent with the actual workings of the universe, suggests Kline, it may be

because of something like the anthropic principle. The anthropic principle of cosmology claims that the universe has the structure and substance that it does on account of the human mind. That is to say, if the first few seconds after the Big Bang had been different from what we think they were, conditions favorable to the emergence of humanity would have existed no where in the universe. Consequently, the universe assumed its form and content because only in such a universe could the human mind emerge. The devotees of the anthropic principle reverse this a bit and assume that the universe is the way it is because of the presence of the human mind. Therefore, the mathematical fabrications of mind are congruent with the universe because the structure and content of the universe are contingent upon the presence of mind. Needless to say, the anthropic principle is not beyond question. I am inclined, however, to accept, at least tentatively, Kline's thesis that mathematics and logic are biological and cultural constructions. There is no proof, perhaps no proving, that such is the case. I feel it in my guts and thus find it hard to accept the idea that logical and mathematical propositions have any necessary truth.

We come, finally, to claims to knowledge or truth based on access to human consciousness, either via direct report or via inference from behavior. If someone says to us, "I have a tooth-ache," we are not inclined to doubt the truth of such a report. We are unlikely to think, "Gee, I wonder if the ache really isn't in the big toe" or "I wonder if there is any ache there at all." Our proclivity is to accept, without question, reports made to us by individuals concerning their inner states, their consciousness. In

"Empiricism and the Philosophy of Mind," an essay contained in a book titled, Science, Perception, and Reality, Wilfrid Sellars contends that our easy acceptance of first-person reports on their inner states makes us captives of the Myth of the Given, of the myth that we cannot presume to doubt what someone has told us about the state of their consciousness. In fact, suggests Sellars, we should be as much in doubt as to the truth of someone's assertion that he/she is in pain as we are about the necessary truth of the proposition, "no bachelor is married." We accept first-person reports as true for a reason entirely different from why we confer truth on other propositions. We think other propositions are true because they correspond to the evidence, are definitional, or have logico-mathematical validity. We believe the reports by individuals on their inner states for the curious, and not entirely acceptable, reason that we do not see any convenient way, short at least of hooking those persons up to a machine, of placing them in doubt. According to Sellars, there is no reason in the world why we cannot doubt the truth of first-person reports on inner states. To add insult to injury, he reminds us that such reports are linguistically structured. One might encounter a person from the Southwest Pacific who reports a toothache. If one accepts that report as true, one treads on dangerous ground. It may be that this person's Oceanic tribe calls a tooth what we call a big toe. Thus, a report of a toothache is in actuality a report of an ache in the big toe and it may not even be that, if there happens to be some breakdown in the tribesman's neuro-sensory apparatus. In sum, it is impossible to accept first-person reports of inner states as true beyond doubt.

I must admit that there is another perspective on necessary truth which seeks to hold onto that concept. I speak of Saul Kripke's notion of necessary truth, in a book titled Naming and Necessity (Cambridge: Harvard University Press, 1980), in which a proposition which is true in all possible worlds is to be considered a necessary truth. Kripke's thesis is not complex, but it does require some reflection. If temperature is taken to be mean molecular kinetic energy (and let us not worry about what all those terms mean) in our world, then to describe another world, a logically possible world, in which the sensations of hot and cold are to be explained by a mechanism other than mean molecular kinetic energy (or what we have called temperature in our world), such is not to say that there is a possible world in which temperature is not mean molecular kinetic energy, but it is to say that there is a possible world in which some mechanism other than temperature imparts the sensations of hot and cold. We can assert that once we have accepted temperature as mean molecular kinetic energy in our world, nothing would count as a logically possible world in which temperature was not mean molecular kndtic energy whatever the mechanism may be in that alternate world which accounts for the sensations of hot and cold. The essence of temperature is mean molecular kinetic energy and such is determined empirically, or by investigation. Kripke is arguing that there are necessary truths, empirically derived in this world, which seem true for all logically possible worlds. This is an even different twist on the old distinction between statements which are necessarily true

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by definition and statements whose truth is contingent upon resort to the evidence. Kripke says we have what he calls "epistemically contingent necessary truths," truths which, while derived empirically in our world, are necessarily true in all logically possible worlds. What Sellars and Quine do, respectively, is to route first-person reports of internal states and statements presumed to be true by definition out of the category of necessary truth. Even if one adopts a correspondence theory of truth, truth is a statement which corresponds to the empirical world, the Sellars/Quine double team leaves truth a matter of contingency. If one's posture is that "truth" is dependent on one's theories, hypotheses, and descriptions, themselves a product of socialization, then there may not be even contingent truth. But that is a story to which we shall proceed. (Just parenthetically, I might say that there is now great skepticism about any assertion concerning necessary truth. Euclid accepted it as necessary truth that two straight lines perpendicular to a third would never meet. We now know that straight lines of light traveling in the vicinity of the sun's gravitational field can be so affected as to converge.)

Another, more indirect, way of getting at inner states is via inference from observed behavior. Max Weber's famous concept of Versthen required an inference from behavior to the thoughts, feelings, values, and combinations thereof which might have prompted it. To this proximate empathy, R. G. Collingwood, in The Idea of History, added the notion of empathy at a distance, whereby what was in the minds of historical figures is inferred from their actions. My sense is that a vast distance separates action from what is in the mind. To

get at mental contents by inference from behavior is a shaky business indeed, especially if one's goal is to assign truth to the contents of mind. And hovering always in the background is Freud: What if our behavior is unconsciously motivated? Can an outsider hope to move, by inference, from behavior to mind's true motivations when such motivations, by virtue of being sub rosa, are opaque to mind itself? As an Englishman might say, "not bloody likely."

We are now nearing the end of what I hope has not been too tedious or boring a road. I have suggested that our library and information systems provide access to claims to knowledge rather than to knowledge or information and that such claims to knowledge are in fact claims to truth. I have tried to show that claims to knowledge entered on the basis of induction, hypothecation, definition, and access to inner states fail to the extent that claims to knowledge are also claims to truth. We tend to equate claims to knowledge with claims to truth because of the unhappy epistemological history of librarianship.

Since the professionalization of American librarianship during the last half of the nineteenth century, we have chosen a way of looking at the world which one might call representational realism, the view that there is a world independent of the mind (realism) and that that world impresses itself on our minds much as a stylus might indent the mental wax tablet to which John Locke referred in the seventeenth century (representation). It is by no means accidental that Jesse Shera became interested, several decades ago, in Kenneth Boulding's book, The Image. Or that Allan Pratt, in his recent

The Information of the Image, displays a comparable interest in Bouldingian eiconics, the science of images. In common, Boulding, Shera, and Pratt see the mind as malleable or moldable. For them, the process of informing is the process by which the mind's image of the world is shaped and reshaped. It is once again the passive mind awaiting shaping by the world. Pratt asks us to think about the word inform - in-form - to form in or within the mind one's image of the world. For him, information is that which has the potential to change or to reinforce mental images. Here information is a process of "in-formation" of the images contained in the mind. Pratt, in fact, comes up with a new term, emmorphosis, to reflect the notion of information as "in-forming" the image. His definition of emmorphosis goes as follows: "the process of change which occurs within the human mind upon the receipt and integration into the mind of a structured message received directly or indirectly from some human source."[10] Apart from the integration of the message into the mind, what impresses and troubles one here is the indication of the mind in repose, the mind just sitting there and taking things in, the mind mirroring or representing or corresponding to reality when philosophers as diverse as Feyerabend, Rorty, Kuhn, Quine, and Putnam continue to be disturbed by representational realism.

It ~~is not~~ entirely clear where that leaves us as librarians and information workers. The contents of our media are all we have to work with, whether we seek to provide access to those contents or do something entirely different with them. If soft skepticism inspires a studied neutrality on our part toward content, that is perhaps infinitely preferable

to the mindless neutrality toward content promoted by the Office for Intellectual Freedom of the American Library Association. The trouble is that we must live in the world and, whatever soft skepticism or a laissez-faire concept of intellectual freedom may urge upon us, we are in the recesses of spirit, at least, partisans. I have never met an ideologically neutral librarian or information worker and I am not sure I would want to. Let me, for the moment, suggest that if my paper has any immediate implication, it may be that we should devote less time to designing and refining systems of access, given the shabby state of our claims to knowledge or truth, and more time to other projects within library and information services. Which projects these are, I leave it to you, dear audience, to decide.

I would like to close with two stories. The first comes from Betrand Russell's autobiography. When he was working, with his wife, on their famous multi-volume history of philosophy, Will Durant sent a letter to each of the world's greatest living philosophers asking each to comment, as a pathological optimist like Will Durant might, on the many new truths mankind had discovered. Russell's response consisted of one sentence: "As mankind has yet to discover any truth, I am unable to comment." The second I owe to one of my students, one of those souls who was brave enough to sign up for the course I am teaching this semester in the School of Library and Information Studies and who has had the forebearance, taking perhaps even more bravery, to stay with me. Because her minor for the doctorate is in public administration, she was greatly interested in the book by Marion Casey, Charles McCarthy: Librarian-

ship and Reform. This book is about how the intellectual contents of the State of Wisconsin's Legislative Reference Library, headed by McCarthy, contributed to progressive state government in the Badger State in the early 20th century. Casey practically turns Wisconsin progressivism over to the Library and McCarthy, without substantial reference to other persons, ethnicity, economic conditions, or, for that matter, much of anything else. The irony of it all is that, late in his life, McCarthy himself became skeptical of reform based on what I would call those claims to knowledge to be found in the Legislative Reference Library. He saw that the passage of legislation, the formation of commissions, and the appointment of efficiency experts based on such claims could lead to unanticipated consequences which might subvert democracy.[11] To a philosopher, actions which have unanticipated, in this case negative, consequences are likely to be based on incomplete or defective knowledge. The orthodox wisdom suggests that unanticipated consequences are a result of basing action on only part of the whole truth or on claims to knowledge which contain no truth whatever. My hunch is that McCarthy became discouraged about reform, late in his life, because he belatedly recognized that the claims to truth contained in the Legislative Reference Library were hollow in substance and inadequate in scope, claims incapable of sustaining the legislative and executive initiatives which they inspired.

We hear you, Bertrand Russell!

Thank you.

NOTES

1 Patrick Wilson, Second-Hand Knowledge: An Inquiry into Cognitive Authority (Contributions to Librarianship and Information Science, Number 44) (Westport, Connecticut: Greenwood Press, 1983), p. 50.

2 Ibid., pp. 194-195.

3 Ibid., p. 202.

4 (New York: Becker and Hayes, 1972), pp. 110-111.

5 Don R. Swanson, "Libraries and the Growth of Knowledge" (112-134) in Don R. Swanson (ed.), The Role of Libraries in the Growth of Knowledge (Chicago: University of Chicago Press, 1980).

6 Jesse Shera, "The Pathfinder's Burden" in Metcalf, Downs, Kaser, and Shera at Eastern Illinois University (LJ Special Report #21) (New York: R. R. Bowker Company, 1981), p. 32.

7 Quoted in Horace Freeland Judson, The Search for Solutions (New York: Holt, Rinehart and Winston, 1980), pp. 169,195.

8 Hilary Putnam, Reason, Truth and History (Cambridge: Cambridge University Press, 1981), p. 198.

9 Morris Kline, Mathematics: The Loss of Certainty (New York: Oxford University Press, 1980)

10 Allan D. Pratt, The Information of the Image (Norwood, New Jersey: Ablex Publishing Corporation, 1982), p. 38.

11 Marion Casey, Charles McCarthy: Librarianship and Reform (Chicago: American Library Association, 1981), pp. x-xi.